

**Abstract**

A technique is disclosed that replaces the slot-based backoff in the prior art with an event-based backoff, in which the event-based backoff interval accounts for other stations contending for a shared resource. The access sequence in the illustrative embodiment of the present invention enables a station to know in advance the length of the wait for accessing the shared resource. As a result, during the backoff interval the station can power down its receiver and conserve power.